IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit:	2125	**DECLARATION OF RALF ENGLAND**
Examiner:	S. Garland	
Inventor:	D. Mauer et al.	
Serial Nos:	10/791,403 10/300,317	
Filed:	March 2, 2004 November 20, 2002	
For:	RIVETING SYSTEM AND PROCESS FOR FORMING A RIVETED JOINT	
Attorney Docket Nos:	0275M-000260/DVD 0275M-000260/COC	

I, Ralf England, hereby declare the following to be true and accurate, to the best of my personal knowledge:

1. I am a Product Manager for the self piercing rivet ("SPR") product line for Emhart Tucker in Germany. I am employed by Emhart Tucker which is a related company to the owner of the above identified patent application. I can understand, read and write English.

2. Emhart Tucker has now sold approximately one hundred fifty (150) SPR machines to AUDI.

3. Emhart Tucker has now sold approximately ninety (90) SPR machines to BMW.

4. Each of the Emhart Tucker SPR machines sold to Audi and BMW has a selling price of at least fifty thousand (50,000) Euros.

5. Each of the Emhart Tucker SPR machines sold to Audi and BMW employs the items listed in the attached claims which I understand are pending in the above identified U.S. patent applications.

6. It is my understanding upon information and belief, from conversations I personally had with Audi and BMW employees, that Audi and BMW purchased these Emhart Tucker SPR machines ~~primiarly~~primarily based on their ~~technial~~technical merit, for example due to essentially the mechanical, control system and computer software features noted in the attached claims (which lead to quality, durability and other functional advantages), rather than due to s–ales, marketing, advertising or price considerations.

7. It is my opinion upon information and belief, that Emhart Tucker has received significant commercial success for its electric motor driven, rotary-to-linear rivet machines, especially considering its fairly recent introduction by Emhart Tucker to customers since approximately 1998 or 1999. It is also my opinion upon information and belief that Emhart Tucker is one of at least three significant suppliers of SPR style machines in Europe to the automotive industry.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief or upon my understanding are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under

Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 2.3.2005

R. England

Ralf England

INDEPENDENT CLAIMS FROM U.S. PATENT SER. NO. 10/791,403

1. (currently amended) A method of manufacturing a joint by operating a riveting system having a riveting tool, a self-piercing rivet, and automotive vehicle panels, the riveting tool including an electric motor and a rivet punch, the method comprising:

(a) determining if the self-piercing rivet is located in the riveting tool;

(b) moving the self-piercing rivet to the riveting tool if step (a) is negative;

(c) energizing the electric motor to advance the self-piercing rivet;

(d) rotating a portion of the electric motor in response to step (c);

(e) converting the rotation of step (d) to linear displacement of the rivet punch;

(f) the rivet punch pushing against a solid head of the self-piercing rivet during insertion into the automotive vehicle panels;

(g) advancing the self-piercing rivet into an unpierced portion of the automotive vehicle panels, in response to step (e), without fluid actuation in the riveting tool;

(h)[[(g)]] outwardly diverging a leading end of the self-piercing rivet during insertion of the self-piercing rivet into the automotive vehicle panels;

(i)[[(h)]] preventing the self-piercing rivet from completely piercing through a die side one of the automotive vehicle panels; and

(j)[[(i)]] determining displacement associated with the rivet punch as a function of actuation speed used to insert the self-piercing rivet.

7. (currently amended) A method of manufacturing a joint by operating a riveting system having a riveting tool, a C-frame, a die, a self-piercing rivet, and automotive vehicle panels, the riveting tool including an electric motor and a rivet punch, the method comprising:

(a) robotically moving the C-frame to align a joint area of the automotive vehicle panels between the rivet punch and the die;

(b) inserting a self-piercing rivet to the riveting tool;

(c) rotating a portion of the electric motor;

(d) linearly moving the rivet punch in a fluid-free manner;

(e) clamping the automotive vehicle panels together in an area substantially surrounding the joint area;

(f)[[(e)]] punching the self-piercing rivet into a solid portion of the automotive vehicle panels;

(g)[[(f)]] using the die to outwardly diverge a leading end of the self-piercing rivet during insertion of the self-piercing rivet into the automotive vehicle panels, always keeping the rivet punch and die coaxially aligned during use of the riveting tool;

(h)[[(g)]] preventing the self-piercing rivet from completely piercing through a die side one of the automotive vehicle panels; and

(i)[[(h)]] sensing real-time velocity of a component coupled to at least one of: the electric motor and the rivet punch.

13. (currently amended) A method of manufacturing by operating a riveting system including an electric motor, a belt, a transmission, a punch, a die, a workpiece clamp, a C-frame, and a self-piercing rivet, the method comprising:

(a) stationarily attaching the die to the C-frame;

(b) sensing if the self-piercing rivet has been fed adjacent to the punch;

(c) rotating a portion of the electric motor;

(d) rotating the belt in response to rotation of the electric motor;

(e) rotating a portion of the transmission in response to rotation of the belt;

(f) linearly displacing the punch in response to rotation of the portion of the transmission;

(g) linearly advancing the workpiece clamp;

(h) using the punch to directly contact against and linearly push a solid head of the self-piercing rivet;

(i) using the die to outwardly diverge a leading end of the self-piercing rivet while preventing the self-piercing rivet from contacting directly against the die, always keeping the rivet punch and die coaxially aligned during use of the riveting tool;

(j) sending a signal between a computer controller and a sensor, and the sensor sensing a characteristic associated with the electric motor; and

(k)[[(j)]] electronically comparing a sensed and real-time action associated with operation of at least one of: the electric motor, the transmission, and the punch, to at least one pre-programmed value.

15. (original) The method of claim 13 further comprising clamping a pair of aluminum, automotive vehicle panels together in an area substantially surrounding the riveting area.

16. (original) The method of claim 13 further comprising inserting the self-piercing rivet into an unpierced area of automotive vehicle panels to be joined.

21. (new) A method of manufacturing attached automotive vehicle workpieces with a riveting tool, a frame, a die, and a self-piercing rivet, the method comprising:

(a) robotically moving the frame to align a joint area of the automotive vehicle panels between a rivet punch of the riveting tool and the die, the rivet punch and die always being coaxially aligned during use of the riveting tool;

(b) supplying the self-piercing rivet to the riveting tool;

(c) rotating a portion of an electric motor of the riveting tool;

(d) linearly moving the rivet punch in a fluid-free manner;

(e) clamping the automotive vehicle workpieces together adjacent a solid portion of the automotive vehicle workpieces to be attached;

(f) pushing the self-piercing rivet into the solid portion of the automotive vehicle workpieces;

(g) using the die to outwardly diverge a leading end of the self-piercing rivet during insertion of the self-piercing rivet into the automotive vehicle workpieces;

(h) preventing the self-piercing rivet from completely piercing through a die side one of the automotive vehicle workpieces; and

(i) sensing a real time value of the electric motor during riveting operation and automatically comparing the real time value to a desired, stored value.

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INDEPENDENT CLAIMS FROM U.S. PATENT SER. NO. 10/300,317

7. (Currently Amended) A method of manufacturing and operating computer software for use in a workpiece riveting process having a self piercing rivet and a riveting tool with an electric motor, the method comprising:

(a) energizing the electric motor of the riveting tool, causing rotation of a portion of the electric motor which linearly drives a rivet punch in a fluid-free manner, and advancing the self-piercing rivet into a solid and undrilled workpiece area, with a first set of software instructions;

(b) determining a rivet characteristic, and if unacceptable, varying the riveting process with a second set of software instructions; and

(c) determining the force needed to join workpieces by the rivet, and if unacceptable, varying the riveting process with a third set of software instructions.

14. (Currently Amended) A computer program stored in memory for use in a riveting process employing a self-piercing rivet, a joint, and a riveting tool having an electric motor, a transmission, a punch and a die, the program being operated according to the steps comprising:

(a) recalling data about the joint to be riveted;

(b) energizing the electric motor and converting rotary motion of the motor to linear motion in the transmission operably driven by the motor;

(c) linearly advancing the self-piercing rivet, in response to step (b), into a solid and undrilled workpiece area, in a fluid-free manner,;

(d) determining a riveted characteristic of at least one of: (i) the self-piercing rivet and (ii) the joint; and

(e) comparing the determined riveted characteristic of step (d) with the data of step (a).

15. (Original) The program of Claim 14 further comprising receiving a signal from a sensor located in the riveting tool indicating the riveted characteristic.

17. (Original) The program of Claim 14 further comprising deenergizing the electric motor to prevent the self-piercing rivet from directly contacting against the die when the rivet is in a substantially optimum workpiece-engaging position between the punch and the die.

32. (Currently Amended) A [computer program stored on a medium for use in a] riveting process employing a self-piercing rivet, a joint and an electric motor, the process [program] comprising:

(a) [a first set of computer instructions operably] recalling data about the joint to be riveted;

(b) [a second set of computer instructions operably] energizing the electric motor and causing rotary motion of the motor to linearly advance the self-piercing rivet;

(c) [a third set of computer instructions operably] using a real-time sensed signal input;

(d) [a fourth set of computer instructions operably] comparing the sensed signal input to the recalled data; and

(e) [a fifth set of computer instructions operably] deenergizing the electric motor to prevent the self-piercing rivet from completely piercing through a die-side workpiece.

45. (Currently Amended) Computer software stored in memory for use in a workpiece fastening process having at least one workpiece, a fastener and a fastening tool, the fastening tool including an actuator and a punch, the software comprising:

(a) first software instructions being operable to energize the actuator in order to advance the punch and drive the fastener into a solid area of the workpiece in a fluid-free manner;

(b) second software instructions being operable to determine if a portion of the fastener is substantially flush with an exterior surface of the workpiece; and

(c) third software instructions being operable to control energization of the actuator in order to stop advancement of the punch when the desired flushness of the fastener portion relative to the workpiece is determined.

47. (Previously Presented) The software of Claim 46 wherein the rivet is a diverging and self piercing rivet that at least one of the software instructions prevent from being driven through a die-side workpiece.

48. (Previously Presented) The software of Claim 45 wherein the actuator is an electric motor and the fastening tool is free of fluid actuation.

49. (Previously Presented) The software of Claim 48 further comprising at least one gear operably rotated by the electric motor when energized by the first software instructions, and a transmission operably converting rotary motion of the gear to linear advancing motion of the plunger.

54. (Previously Presented) A computer program stored on a medium for use in a riveting process employing a fastener, at least a die-side workpiece, a joint in the workpiece and an electric motor, the program comprising:

(a) a first set of computer instructions operably recalling data about the joint to be riveted;

(b) a second set of computer instructions operably energizing the electric motor and causing rotary motion of the motor to linearly advance the fastener;

(c) a third set of computer instructions operably using a real-time sensed signal input;

(d) a fourth set of computer instructions operably comparing the sensed signal input to the recalled data; and

(e) a fifth set of computer instructions operably controlling the electric motor to prevent the fastener from completely piercing through the die-side workpiece.

67. (Previously Presented) The program of Claim 54 wherein the fastener is a self-piercing rivet and the recalled data relates to riveting joint values.

68. (Currently Amended) A method of manufacturing by operating computer software for use in a workpiece riveting process having a self-piercing rivet and a riveting tool, the tool including an electromagnetic actuator, a fluid-free transmission and a punch, the method comprising:

(a) energizing the actuator of the riveting tool and advancing the self-piercing rivet with first software instructions;

(b) determining the actual electrical power characteristic of the electric motor and comparing the actual electrical power characteristic to a desired electrical power characteristic [determining a riveting characteristic, and if unacceptable, varying the riveting process with second software instructions]; [and]

(c) automatically causing an exterior head surface of the self-piercing rivet to be substantially co-planar with a punch-side workpiece;

(d) automatically storing the determined characteristic values and displaying historical trends between riveting process cycles; and

(e) causing rotation of a portion of the electromagnetic actuator which drives the fluid-free transmission in order to linearly drive the punch.

76. (Currently Amended) A method of manufacturing by operating computer software for use in a workpiece fastening process having a self-piercing fastener and a fastening tool, the tool including an electric motor and a transmission, the method comprising:

(a) energizing the electric motor of the fastening tool which drives the transmission in a fluid-free manner in order to advance the self-piercing fastener, with at least a first portion of the software;

(b) determining a fastening characteristic, and if unacceptable, automatically varying the fastening process, with at least a second portion of the software, the fastening characteristic comprising thickness of the at least one workpiece;

(c) determining if the workpiece thickness is acceptable, and if not, automatically varying the fastener process; and

(c)[[(c)]] determining the force needed to join at least one workpiece by the self-piercing fastener, and if unacceptable, varying the fastening process, with at least a third portion of the software.

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SPR SETTING MACHINE USAGE AGREEMENT

This **SPR SETTING MACHINE USAGE AGREEMENT** ("Agreement") is made and entered into as of the last execution date below ("Effective Date"), by and between **EDISON WELDING INSTITUTE**, an Ohio company having an address at 1250 Arthur E. Adams Drive, Columbus, Ohio 43221 (hereinafter, "EWI"), and **EMHART TEKNOLOGIES, INC.** (hereinafter "EMHART"), which is a company organized under the state of Delaware, having a place of business at 49201 Gratiot Avenue, Chesterfield, MI 48051.

In consideration of the promises and the faithful performance of the mutual covenants contained herein, full and sufficient consideration having been provided and the receipt and adequacy of which is acknowledged by EMHART and EWI, the Parties agree as follows:

SECTION 1. DEFINITIONS

1.1 "Affiliate," "Affiliates" and an "Affiliated company" shall mean any subsidiary, joint venture, parent company or corporate entity related to a Party hereto provided that fifty percent (50%) or more of the outstanding shares of the stock in such subsidiary, joint venture, parent company or related corporate entity which is entitled to vote for the election of directors in the case of a stock issuing entity or fifty percent (50%) or more of which in the case of a non-stock issuing entity, is owned or controlled, directly or indirectly, by or of a Party hereto, but only as long as such ownership or control exists.

1.2 "Confidential Information" shall include: all inventions, proprietary information, technical know-how, trade secrets, pending patent applications, computer software, technical drawings, business plans, business information (including the existence, subject matter, and terms of this Agreement), and products, which may be communicated in writing, orally, or by other tangible medium. At least the installation manuals, operation manuals, computer software, and internal components (those hidden from view when fully assembled) of the SPR Machine shall be considered

Confidential Information of EMHART. The following shall not constitute Confidential Information: (a) information which at the time of disclosure to receiving Party by the disclosing Party, was generally and publicly known to a majority in the automotive fastener industry; (b) information which was possessed by receiving Party, as demonstrated by the receiving Party's written or other tangible evidence, before receipt thereof from the disclosing Party; (c) information which is disclosed to the receiving Party in good faith by a third party who has an independent right to such information; or (d) information ordered to be disclosed by a judicial court or governmental administrative agency, with prior notice of such a possible issue being promptly provided to the disclosing Party so it can seek a protective order. These exceptions must be substantiated by the receiving Party through corroborated, written or physical proof, and by clear and convincing evidence, if so requested by the disclosing Party.

1.3 "Licensed Patents" shall mean: (a) U.S. Patent No. 6,276,050 entitled "Riveting System and Process for Forming a Riveted Joint " which issued on August 21, 2001; (b) U.S. Patent No. 6,502,008 entitled "Riveting System and Process for Forming a Riveted Joint " which issued on December 31, 2002; (c) U.S. Patent Application Serial No. 09/862,688 entitled "Riveting System and Process for Forming a Riveted Joint" which was filed on May 22, 2001; and (d) U.S. Patent Application Serial No. 10/300,317 entitled "Riveting System and Process for Forming a Riveted Joint" which was filed on November 20, 2002, which are all assigned to Newfrey LLC, EMHART or one of their Affiliates.

1.4 "Parties" shall mean both EMHART and EWI, and "Party" shall mean EMHART or EWI.

1.5 "SPR Machine" shall mean the self piercing rivet machine, WD810 series or equivalent, made by or on behalf of EMHART.

SECTION 2. LOAN OF EQUIPMENT BY EMHART AND USE BY EWI

2.1 EMHART shall loan the SPR Machine to EWI for a term beginning within thirty (30) days of the Effective Date of this Agreement and naturally terminating two (2) year thereafter, unless the term is terminated earlier as provided for in this Agreement.

2.2 EWI shall only use the SPR Machine for experimental and testing purposes which are non-competitive with EMHART and noncommercial in nature, and only at the EWI address provided for in this Agreement.

2.3 EWI shall not duplicate the SPR Machine or any part thereof.

2.4 EWI shall only use the SPR machine in accordance with an installation or operating manual supplied by EMHART to EWI.

2.5 All title and ownership of the SPR Machine shall remain with EMHART or its Affiliates.

SECTION 3. LICENSE GRANT BY EMHART

3.1 EMHART hereby grants to EWI and EWI hereby accepts from EMHART, upon the terms and conditions specified herein, a license under the Licensed Patents to only use the SPR Machine for the term of this Agreement, but only for the use specified in Section 2.2 of this Agreement.

3.2 EWI agrees that the product covered by all of the claims of the Licensed Patents has exhibited commercial success, is valuable and is a significant improvement in the industry.

3.3 EMHART agrees that it will not use EWI's name to promote its business or products to others, whether through advertising or sales promotion or the solicitation of investors.

SECTION 4. IMPROVEMENTS

4.1 It is expressly understood and agreed that the disclosing party owns the confidential information and does not grant any right, license, privilege or immunity, express or implied, to the receiving party under any Confidential Information patent or proprietary right of the disclosing party.

The receiving party, its employees and its agents agree to maintain confidential any equipment, process or technique that they may be exposed to in the course of development, installation, application analysis, or service and repair, while within the disclosing party's facilities.

The Parties agree that any and all enhancements, improvements, modifications, inventions, ideas, or know-how developed, conceived, or discovered (hereinafter "Improvements")

The Parties will negotiate and mutually agree upon whether patents, patent applications, or any other intellectual property right should be obtained that covers or protects any jointly developed Improvement. If the parties disagree on the desirability of legally protecting the jointly developed Improvements, the party in favor of obtaining the protection may apply for such protection at their own expense, and the other party shall assist in obtaining that protection. In such a situation, the party paying for the protection shall own all rights in the jointly developed Improvements and the opposing party shall have a royalty free non-exclusive, non-assignable (except as part of a sale of the business as a whole) license to use the jointly developed Improvements for their

4.2 The ownership and Improvement licensing rights of this Section 4 shall survive termination of this Agreement.

SECTION 5. CONFIDENTIALITY AND PUBLICATION RIGHTS

5.1 EWI shall use its best efforts to keep the EMHART Confidential Information as confidential, and shall not disclose same outside of EWI and EMHART, except as specifically and explicitly allowed in this Agreement for test result publication purposes only. This confidentiality obligation shall survive termination of this Agreement.

SECTION 6. TERMINATION

6.1 Either Party may terminate this Agreement in writing at any time and for any reason.

6.2 Upon termination, EWI shall immediately cease all use of the SPR Machine and return the SPR Machine and all manuals and other materials provided by EMHART, to EMHART, within thirty (30) days, F.O.B. EMHART's facility in Chesterfield Township, Michigan.

SECTION 7. WARRANTIES AND REPRESENTATIONS

7.1 EMHART represents and warrants that it and/or its Affiliates exclusively owns the entire right, title, and interest in and to the Licensed Patents and SPR Machine, has authority to enter into this Agreement and is free to grant the license and perform its obligations as provided for in this Agreement.

7.2 EWI represents and warrants that it has authority to enter into this Agreement and perform its obligations as provided for in this Agreement, and that the performance by EWI of its duties and obligation hereunder does not violate any prior, existing, and will not violate any future contract, obligation, or understanding that EWI may have or subsequently enter into with another.

7.3 Nothing contained in this Agreement shall be construed as: (a) A warranty or representation by EMHART as to the validity, enforceability, scope or eventual issuance of any patents, including the Licensed Patents; (b) A warranty or representation by EMHART that any use by EWI will be free from infringement of third party patents or other intellectual property rights; (c) Conferring by implication, estoppel or otherwise, upon EWI, any license or other right under any EMHART patent, trademark, trade secret, or know-how except the license expressly granted herein; (d) An obligation by EMHART to bring or prosecute actions or lawsuits against third parties for infringement; or (e) An obligation by EMHART to pay any maintenance, annuity, or other fees due to maintain any patents referenced herein.

SECTION 8.

8.1

SECTION 9. MISCELLANEOUS

9.1 EWI may not transfer, reassign or sublicense any of its rights under this Agreement or to the SPR Machine.

9.2 This Agreement and matters connected with the performance thereof shall be construed, interpreted, applied, and governed in all respects in accordance with the laws of the State of Delaware (without regard to the choice of law provisions thereof).

9.4 This Agreement constitutes the entire agreement between EWI and EMHART with respect to the subject matter hereof and supersedes and replaces all previous negotiations, commitments, verbal discussions, and writings with respect thereto and may not be modified or amended except by a writing duly signed by the authorized representatives of each of the parties.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed by their representatives.

EMHART TEKNOLOGIES, INC.	Edison Welding Institute
By: Christine Yingli Lee	By: Robert Bauer
Typed Name: CHRISTINE YINGLI LEE	Typed Name: JAIME BAUER
Officer Title: Director of R&D	Officer Title: MGR. CONTRACTS
Date: January 9, 2004	Date: 1/15/04

(SPR Setting Machine Usage Agreement)